

# **Integrated Planning to Mitigate Emissions of Urban Air Pollutants and Greenhouse Gases**

by

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## **Poster-Paper Abstract**

Certain measures to control urban air pollutants (UAPs) (e.g., O<sub>3</sub>, CO, NO<sub>x</sub>, SO<sub>2</sub>, PM, or Pb) can increase emissions of greenhouse gases (GHGs) (e.g., CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFC, PFCs, or SF<sub>6</sub>). For example, flue gas desulfurization systems (commonly known as scrubbers) reduce SO<sub>2</sub> emissions from power plants, but can increase GHGs if the scrubbers penalize energy efficiency. On the other hand, certain measures that reduce net emissions of GHGs can increase UAPs (e.g., using wood from a sustainable forest instead of natural gas for home heating). Ideally, urban and regional planners need measures that simultaneously reduce both UAPs and GHGs, such as policies that encourage the replacement of conventional motor vehicles with hybrid (i.e., gasoline-electric) vehicles or incandescent lighting with compact fluorescent lamps. Most air quality management (AQM) frameworks are not designed to produce optimal strategies to reduce both UAPs and GHGs, even though a few frameworks consider both issues either directly or indirectly. Despite the absence of a legal mandate to deal with GHGs, the U.S. Environmental Protection Agency (EPA) has developed Integrated Environmental Strategies (IES) for “co-controlling” UAPs and GHGs, and has performed IES studies in several foreign countries. Other organizations are analyzing the linkages between regional and global air quality issues, such as: the Clean Air Initiative (CAI) program of the Asian Development Bank (ADB); and the menu of harmonized options for reducing GHGs and air pollution in four U.S. locations, as reported in a study by the State and Territorial Air Pollution Program Administrators (STAPPA) and the Association of Local Air Pollution Control Officials (ALAPCO). The EPA claims that IES is compatible with “smart growth” measures, such as those that combine a rail transit project with transit-oriented development. An example of this is the integrated land use, transportation, and air quality (LUTRAQ) planning process that occurred several years ago in Portland, Oregon. Because the IES process may appeal to many urban and regional planners, this poster summarizes its rationale, goals and objectives, partners and stakeholders, analytic approach, scientific uncertainties, metrics used in evaluating policy measures, and barriers to implementation.